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Set the set of dynamical decomposition points $V_d = \{\phi\}$ and the set of local optimal solutions $V_s = \{\phi\}$.

Step 2. - (Find a local optimal solution)

Apply the hybrid search method for Phase II [of] starting from the initial point to find a local optimal solution, say x_s, and set $j = 0$, $V_{new}^{j} = \{x_s\}$ and $V_s = \{x_s\}$.

Step 3 - Set $j = j+1$. For each local optimal solution in the set V_{new}^{j}, say x_s^j, perform the following Step 4 - Step 6:

Step 4 - (find all the adjacent dynamical decomposition points)

Define a set of search vectors s_i^j, $i = 1,2,\cdots,m$

For each search vector s_i^j, apply the numerical DDP search method presented in Sec. 4.1.3 except that the nonlinear dynamical system (4.10) is employed instead to find the corresponding DDP. Let it be denoted as $x_{d,j}^i$. Set $V_d = V_d \cup \{x_{d,j}^i\}$.

Step 5 - (Assessment of the dynamical decomposition points)

Examine the set $\underline{V_d}$ of all computed dynamical decomposition points and eliminate the same dynamical decomposition points, leaving one in the set.

Step 6 – (Find all the adjacent local optimal solutions)

For each dynamical decomposition point $x_{d,j}^i$ in the set V_d, do the following steps to find the corresponding adjacent local optimal solution.

Step 6.1 - (compute an effective initial point)

Set $x_{0,j}^i = x_s^j + (1+\varepsilon)(x_{d,j}^i - x_s^j)$, where ε is a small number. (Note that $x_{0,j}^i$ lies inside the stability region of the corresponding adjacent local optimal solution)

Step 6.2 - (Initial search)